

CLAIMS

1. A dressing method in a vertical duplex-head surface grinding machine including a pair of upper and lower grinding stones rotatable on a vertical axis and a work holding part capable to hold a work at a set location and rotatable on its vertical axis, the work held by the work holding part being inserted between the grinding stones to grind upper and lower surfaces simultaneously, the dressing method being characterized in that:

the work holding part comprises first and second reference planes for alignment of the work, the first reference plane being a circumferential surface coaxial with a self-rotating axis of the work holding part and the second reference plane being a surface perpendicular to the self-rotating axis;

a dressing tool having a dressing wheel is provided with a fitting portion to fit in the first reference plane and an abutment surface to abut against the second reference plane, the dressing tool being mounted in alignment on the work holding part through fitting the fitting portion in the first reference plane and abutting the abutment surface against the second reference plane; and

the upper and the lower grinding stones are dressed through inserting the dressing tool supported on the work holding jig between the grinding stones.

2. The dressing method in a vertical duplex-head surface grinding machine as defined in claim 1, characterized in that:

the work holding part comprises a self-rotating shaft rotatable on its vertical axis, and a work holding jig capable to be attached and detached to the self-rotating shaft and to hold the work in a set location;

the self-rotating shaft comprises the first and the second reference planes, the work holding jig for alignment with respect to the self-rotating shaft comprises a shaft fitting portion to fit in the first reference plane and a shaft abutment surface to abut against the second reference plane; and

the dressing tool is configured to be mounted to the self-rotating shaft in place of the work holding jig through fitting the fitting portion of the dressing tool in the first reference plane of the self-rotating shaft and abutting the abutment surface of the dressing tool against the second reference plane of the self-rotating shaft.

3. The dressing method in a vertical duplex-head surface grinding machine as defined in claim 1, characterized in that:

the work comprises integrally a disc portion and a hub portion;

the work holding jig comprises an inner circumferential surface for center alignment constituting the first reference plane and fitting with the outer circumferential surface of the hub portion of the work and a work reference surface constituting the second reference plane and against which the lower surface of the disc portion abuts;

the dressing tool comprises a cylindrical member constituting the fitting portion and having a same diameter with that of the hub portion of the work, the lower surface of the flange portion of the cylindrical member constituting the abutment surface, and a disc shaped dressing wheel

coaxially connected to the cylindrical member; and

the dressing tool is configured to be mounted to the work holding jig in place of the work through fitting the cylindrical member in the inner circumferential surface for center alignment of the work holding jig and the lower surface of the flange portion of the cylindrical member is abutted against the work reference surface.

4. A dressing method in a vertical duplex-head surface grinding machine including a pair of upper and lower grinding stones rotatable on a vertical axis, a work holding jig capable to hold a work having integrally a disc portion and a hub portion in a set location and rotatable on its vertical axis, and a clamping device to press the work against the work holding jig, the work holding jig having an inner circumferential surface to fit with an outer circumferential surface of the hub portion of the work and a work reference surface against which a lower surface of the disc portion abuts, and the work held by the work holding jig being inserted between the grinding stones to grind upper and lower surfaces simultaneously, the dressing method being characterized in that:

a dressing tool comprises a cylindrical member having an external diameter same with that of the hub portion of the work and a disc shaped dressing wheel connected coaxially to the cylindrical member;

the cylindrical member is fitted in the inner circumferential surface for center alignment of the work holding jig and a lower surface of a flange portion of the cylindrical member is abutted against the work reference surface;

the dressing tool is pressed against the work holding jig by the clamping device; and

the upper and the lower grinding stones are dressed through inserting the dressing tool supported on the work holding jig between the grinding stones.

5. The dressing method in a vertical duplex-head surface grinding machine as defined in claim 4 or 5, characterized in that:

the work holding jig comprising a cylindrical positioning piece having integrally the inner circumferential surface for center alignment and the work reference surface is employed.

6. The dressing method in a vertical duplex-head surface grinding machine as defined in claim 5, characterized in that:

an upper end of the cylindrical member of the dressing tool is pressed by a steel ball of the clamping device.